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FAIRCHILD SEMICONDUCTOR CORPORATION

UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ALPHA & OMEGA SEMICONDUCTOR, INC., a California corporation; and ALPHA & OMEGA SEMICONDUCTOR, LTD., a Bermuda corporation,

Plaintiffs and Counterdefendants,

v.

FAIRCHILD SEMICONDUCTOR CORP., a Delaware corporation,

Defendant and Counterclaimant.

AND RELATED COUNTERCLAIMS.

Case No. C 07-2638 JSW (EDL)

(Consolidated with Case No. C 07-2664 JSW)

REPLY IN SUPPORT OF FAIRCHILD SEMICONDUCTOR CORPORATION'S NOTICE OF MOTION AND MOTION TO STRIKE PLAINTIFFS' PATENT LOCAL RULE 3-1 DISCLOSURES

Date: December 11, 2007
Time: 9:00 a.m.
Courtroom: Courtroom E, 15th Floor

Hon. Elizabeth D. Laporte

I. INTRODUCTION

Having initially served a Disclosure of Asserted Claims and Preliminary Infringement Contentions ("PICs") under Patent L.R. 3-1 completely devoid of any genuine disclosure regarding its infringement contentions, AOS continues to drag its feet with respect to providing the necessary information regarding its infringement theories, as required by the patent Local Rules. Instead, AOS resorts to calling Fairchild's instant motion "tactically driven"[1] and mischaracterizes Fairchild's arguments and the law. Tellingly, AOS in its opposition did not distinguish any of the cases cited by Fairchild in its motion to strike and cites to only one inapposite case in support of its position – a case in which the court found that the patentee had failed to conduct a reasonable pre-filing investigation under Rule 11 of the Federal Rules of Civil Procedure by not performing any pre-filing reverse-engineering. *See Network Caching Technology, LLC v. Novell, Inc.*, 2003 WL 21699799 (N.D.Cal. 2003).

Whereas AOS's motion to strike Fairchild's PICs did not argue that Fairchild's disclosures or claim charts were insufficient -- the only issue it addressed is whether the reverse engineering of fourteen parts could be used to accuse 342 parts -- AOS's Supplemental PICs are grossly deficient when it comes to the disclosure of AOS's infringement theories in this case. AOS's Supplemental PICs fail to demonstrate the practice of various elements of AOS's asserted patent claims, ignore some claim language entirely, and include material which either fails to support and even contradicts AOS's contentions. Despite numerous requests by Fairchild, AOS has failed to provide claim charts identifying specifically where each element of each asserted claim is found within each accused product or method, as required by Patent Local Rule 3-1. AOS's Supplemental PICs do not comply with the Patent Local Rules and should be stricken.

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[1] It is actually AOS's motion to strike Fairchild's PICs that was tactically driven. AOS objected to Fairchild's PICs only after Fairchild informed AOS of gross deficiencies in its original PICs. Declaration of Igor Shoiket in support of Fairchild's Motion to Strike ("Shoiket Decl.") (Docket No. 61), at ¶¶ 5-6 and Exs. 5-6. Because Fairchild's PICs are not deficient, they required no supplementation. *See* Fairchild's PICs (Declaration of Brett M. Schuman in support of AOS's Motion to Strike ("Schuman Decl.") (Docket No. 52), at Ex. A). AOS's motion to strike Fairchild PICs, denied by the Court on November 27, 2007, appears to be a classic "the best defense is a good offense" tactic.

II. ARGUMENT

A. AOS's Supplemental PICs fail to provide fair notice of AOS's theories of infringement

Patent Local Rule 3-1(c) requires a party alleging infringement to include in its PICs a "chart identifying specifically where each element of each asserted claim is found within each Accused Instrumentality" (emphasis added). To comply with Patent L.R. 3-1, "a plaintiff must put forth information so specific that either reverse engineering or its equivalent is required." *InterTrust Technologies Corp. v. Microsoft Corp.*, 2003 WL 23120174, *2 (N.D.Cal. 2003). "The purpose of Patent Local Rule 3-1 … is in fact to be nit-picky, to require a plaintiff to crystallize its theory of the case and patent claims." *Id.* at *3. Service of the PICs required by Patent L.R. 3-1 constitutes the initial step in the orderly claim construction process laid out by the Northern District of California's Patent Local Rules. That process is intended to give the defendant fair notice of how the patentee maps elements of accused products based on its claim construction. *Network Caching*, 2003 WL 21699799, at *4-5. As detailed in Fairchild's motion to strike, AOS in its Supplemental PICs fails to provide the required notice. *See* Fairchild's Motion to Strike (Docket No. 59), at pp. 5-8.

AOS has not argued that the deficiencies identified by Fairchild in its motion to strike do not exist – instead it argues merely that its Supplemental PICs, even with these deficiencies present, are sufficient under the Patent Local Rules. Thus it is uncontested that AOS's Supplemental PICs:

(a) fail to identify the conductivity types of various regions for the various claim elements of the '776 patent;

(b) fail to demonstrate the claim element of "compensating a portion of [the] body region" of claim 1 and its dependent claims of the '776 patent by "implanting material of [the] second conductivity type . . . so as to reduce the impurity concentration of [the] first conductivity type in [that] portion of the body region" (see also, similar claim language in claims 13 and 25 and their dependent claims);

(c) completely ignore the claim language "decrease the gate threshold voltage of [the] trench gate" in claim 13 and its dependent claims of the '776 patent, thereby failing to demonstrate the "compensating a portion of [the] body region" claim element which requires "implanting material of [the] second conductivity type . . . such that the impurity concentration of [that] portion of the body region is substantially reduced so as to decrease the gate threshold voltage of [the] trench gate" (see also, similar claim language in claim 25 and its dependent claims); and

(d) fail to adequately show the location of a boundary that would constitute the "diffusion boundary" in all asserted claims of the '776 patent.

AOS mischaracterizes Fairchild's motion to strike as merely an argument over whether AOS's

Supplemental PICs are sufficient to establish that Fairchild's products infringe. That's not the point. These deficiencies prevent Fairchild from having fair notice of AOS's theories of infringement. For example, the failure of AOS's Supplemental PICs to show where Fairchild purportedly "compensates" a portion of the body region in the accused products using an implant of the "second conductivity type" prevents Fairchild from receiving notice of AOS's interpretation of that claim limitation. Figure 4 of the '776 patent shows a doping profile where the "compensated" portion of the body region is purportedly located. As discussed in Fairchild's Opening Brief and below, there are reverse engineering techniques available to AOS that would show a doping profile for the body region to determine whether a "compensating" step took place, but AOS failed to use any such technique.[2] AOS's Supplemental PICs fail to provide Fairchild fair notice of AOS's theories of infringement in several other ways. For example:

- AOS fails to identify conductivity types for the various regions in the products accused of infringing the '776 patent, which is inexcusable since there are reverse engineering techniques that can show this (e.g., Scanning Capacitance Microscopy ("SCM"));
- AOS fails to explain how the alleged "compensating" implant in the accused Fairchild products "reduce[s] the impurity concentration," "decrease[s] the gate threshold voltage of [the] trench gate," and "decrease[s] the gate threshold voltage of [the] gate" claim elements of claims 1, 13 and 25, respectively; and
- AOS fails to adequately show the location of the "diffusion boundary" required by all asserted claims of the '776 patent even though there are reverse engineering techniques that can show this (e.g., SCM).

AOS mistakenly emphasizes Patent L.R. 3-1(c)'s use of the word "where" in describing the disclosure that must be made for each claim element of each asserted claim to justify its lack of disclosure. Patent L.R. 3-1(c)'s use of "where," however, does not mean that AOS must merely identify a physical location. This is illustrated by the fact that Patent L.R. 3-1(c) sets the disclosure requirement for any type of "Accused Instrumentality," including accused methods, and not simply limiting it to accused devices. *See* Patent L.R. 3-1(b)-(c). Clearly one cannot satisfy Patent L.R. 3-1(c) for an accused method merely by identifying a physical location – these types of instrumentalities

[2] A Secondary Ion Mass Spectrometry ("SIMS") analysis would show the doping profile in the body region of the accused Fairchild products.

require identification of steps. Accordingly, Patent L.R. 3-1(c)'s use of the word "where" is not intended to limit the disclosure required to a mere physical location. The patentee must instead set forth "particular theories of infringement with sufficient specificity to provide defendants' with fair notice of infringement . . . ." *Network Caching*, 2003 WL 21699799, at *4. Even if a physical location were sufficient, AOS has not provided sufficient specificity to identify, for example, where the diffusion boundary is located, despite availability of analytical techniques that can do so.

AOS's reliance on *Network Caching* is misplaced. The *Network Caching* court held that the party asserting infringement must map "specific elements of defendants' allegedly infringing products onto [plaintiff's] claim construction" and must "set forth its specific theories of infringement." *Id*. at *5 (emphasis added). Thus, AOS is required to set forth its specific theories of infringement and map "specific elements" of Fairchild's products to AOS's claims. For the reasons previously stated above, AOS has failed to do so. AOS also wrongly relies on *Network Caching* to imply that reverse-engineering is not required under Patent L.R. 3-1(c). The court clearly stated that "reverse-engineering or its equivalent" is indeed required. *Network Caching*, 2003 WL 21699799, at *4 ("the court ruled that 'reverse engineering or its equivalent' was required to provide the requisite level of preliminary infringement information"); *see also Network Caching Technology, LLC. v. Novell, Inc*., 2002 WL 32126128, at *4 (N.D.Cal. 2002) ("reverse engineering or its equivalent is required"); *InterTrust Technologies Corp*., 2003 WL 23120174, at *2 ("At the Patent Local Rule 3-1 Disclosure stage, a plaintiff must put forth information so specific that either reverse engineering or its equivalent is required.").

B. Reverse-engineering techniques were and are available to AOS which can provide additional relevant information

Dr. Blanchard's declaration in support of Fairchild's instant motion discloses reverse engineering techniques available to AOS that it could have used to try to support its infringement contentions.[3] Blanchard Declaration in Support of Fairchild's Motion to Strike ("Blanchard Decl.")

[3] AOS in its opposition points out that AOS has objected to Dr. Blanchard's participation in this case, in an apparent effort to have the Court discount his declaration. Fairchild, however, has provided no

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(Docket No. 60), at ¶¶ 6-10. For example, the SIMS and SCM techniques that Fairchild employed in its PICs are available. Blanchard Decl., at ¶¶ 7-8; *see* Fairchild's PICs (Schuman Decl., at Ex. A). AOS attempts to minimize the effect of Dr. Blanchard's declaration by wrongly asserting that Dr. Blanchard fails to establish that available techniques not used in AOS's Supplemental PICs are more effective than AOS's SEM Image for identifying the physical location of recited regions or that an SEM Image is inadequate for identifying the physical boundaries of regions of conductivity types identified in AOS's Supplemental PICs. With respect to the SEM technique, however, Dr. Blanchard stated:

> "SEM is often used to determine structures of interest by cross-sectioning a device of interest and then using a staining technique. Other techniques such as SIMS and SCM are often then used to obtain further information with respect to the structures of interest." Blanchard Decl., at ¶ 9 (emphasis added).

This passage inherently indicates that SIMS and SCM are used to determine more detailed information than SEM, which Dr. Blanchard describes as an "imaging" technique. *Id*. Dr. Blanchard explained the nature of the further information available from SIMS and SCM techniques:

> "SCM can be used to determine the amount of electrically active dopant present in the exposed surface of a device being analyzed. SCM is often used to obtain information regarding the conductivity type (n-type or p-type) and the range of relative doping concentration at lateral and vertical distances throughout a substrate of a cross-section of a semiconductor device.
>
> . . .
>
> Using SIMS, one can determine concentrations of materials up to a resolution in the range of approximately 10 parts in a billion. SIMS is often used to obtain a doping profile showing the concentration as a function of depth into the silicon of different dopants, such as phosphorus, boron and arsenic, that may be present in a cross-section of a semiconductor device." Blanchard Decl., at ¶¶ 7-8 (emphasis added).

Continued from the previous page

AOS confidential information to Dr. Blanchard, either in preparation for his declaration or otherwise, and AOS has never alleged that Dr. Blanchard is not well qualified as an expert on semiconductors and their manufacturing processes. Apparently AOS considers Dr. Blanchard to be well qualified, including because it tried to hire him early in this case, but after he had already been retained by Fairchild.

Dr. Blanchard specifically identifies the support for AOS's contentions that these techniques could have provided:

> "AOS does not support its contention that certain regions are of certain conductivity types with results of an SCM analysis, even though an SCM analysis is capable of showing conductivity types. In addition, AOS does not support its contention that the doping concentration in the body region of the accused device is "compensated" by a second implant. AOS has not provide any reverse-engineering data, such as SIMS graphs, in support of its PICs that shows the doping concentration profile in the body region, much less that it is in any way "compensated" as required by the claims of the '776 patent. SIMS analysis would most likely show such a doping concentration profile. In addition, AOS does not support its contention that certain regions show a diffusion boundary when techniques, such as SCM analysis, are available to show this. Consequently, much of AOS's Supplemental PICs are based upon unsupported conclusions." Blanchard Decl., at ¶ 10.

In fact, AOS's CTO, Mr. Hebert, provided a declaration in support of AOS's motion to strike Fairchild's PICs in which he identified the SIMS and SCM techniques as the appropriate reverse-engineering techniques that may be used in this case. *See* November 13, 2007 Declaration of Francois Hebert (Docket No. 77), at ¶16. AOS has not explained why it failed to use the SIMS and SCM techniques as part of its pre-filing investigation to crystallize its theory of the case and to provide proper notice of its infringement theories to Fairchild.

C. AOS's arguments regarding its Supplemental PICs ignoring some claim language entirely are unavailing.

AOS's Supplemental PICs fail to comply with Patent L.R. 3-1(c) by ignoring some claim language entirely, making no assertions that the elements described by the language are met by Fairchild's products.[4] See Fairchild's Motion to Strike (Docket No. 59), at pp. 8-9. Conceding it has not disclosed how this claim language is met, AOS argues that the relevant language is not a "claim

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[4] For example, independent claim 13 of the '776 patent includes a "compensating" step claim element which requires the step of "implanting material . . . such that the impurity concentration of [the] body region is substantially reduced so as to decrease the gate threshold voltage of said trench gate" (emphasis added) and independent claim 25 of the '776 patent includes a "compensating" step claim element which requires the step of that " implanting material . . . such that the conductivity of [the] portion of [the] body region is substantially reduced so as to decrease the gate threshold voltage of said gate" (emphasis added). See Fairchild's Motion to Strike (Docket No. 59), at p. 7-8. AOS's contentions make no assertions whatsoever regarding a decrease in the gate threshold voltage. AOS's Supplemental PICs (Shoiket Decl., Ex. 2), at claims 13 and 25 of Ex. A thereto.

element," but instead a "property" of a claim element. Because it has identified the "location" of the claim element that contains that "property," so AOS's argument goes, its disclosure is sufficient. While it's not clear what AOS considers to be a "property" of a claim as opposed to a claim limitation, what is clear is that the language at issue is an essential element of the compensating step – that the compensation results in a decreased gate threshold voltage. At the very least, AOS is obligated to explain why it believes the threshold voltage of the accused products is decreased due to the purported use by Fairchild of the undemonstrated "compensating" implant. AOS's Supplemental PICs offer no factual support that would even demonstrate the use of a compensating implant much less that the gate threshold voltage is reduced as a result of any such implant. See Fairchild's Motion to Strike (Docket No. 59), at pp. 7-8. Whether it chooses to characterize this language as a "claim element" or a "property," AOS must set forth in its PICs its "particular theories of infringement with sufficient specificity to provide defendants' with notice of infringement . . . " of this limitation that is clearly present in the asserted claims. *Network Caching*, 2003 WL 21699799, at *4. Ignoring plainly relevant claim language does not suffice.

D. Contrary to AOS's assertions, AOS has failed to sufficiently identify the accused instrumentalities under Patent L.R. 3-1(b) and has failed to provide all claim charts required under Patent L.R. 3-1(c)

Patent L.R. 3-1(c) requires that the claim charts "must address each product (or other accused instrumentality) separately." *Hewlett-Packard Co. v. EMC Corp.*, 2003 WL 23142198, *1 (N.D. Cal. 2003) (granting motion to strike plaintiffs' PICs). AOS's Supplemental PICs fail to separately provide a chart for each accused Fairchild product or method. Fairchild's Motion to Strike (Docket No. 59), at p. 8-9. AOS has accused four of Fairchild's products of infringing the '776 patent, but has provided only one claim chart for that patent based on a single SEM Image of only one of the accused products. AOS has also accused four Fairchild products of infringing the '567 patent, but has similarly provided only one claim chart for that patent based on a single figure for only one of the accused products. AOS's Supplemental PICs (Shoiket Decl., Ex. 2), at p. 1-2 & Exs. A and B thereto.

AOS wrongly claims that it need not "separately" and "specifically" provide a claim chart for each of the other three parts it has specifically accused for each patent because, it claims, "each of the products accused by AOS employ 'a corresponding design.'" AOS's Opposition to Motion to Strike

(Docket No. 93), at p. 7. Nowhere, however, has AOS explained, whether in its Supplemental PICs or otherwise, what it considers to be "a corresponding design," and why the other three parts it has specifically identified, let alone all the other parts it has accused of infringement, have a "corresponding design."[5] AOS's position is thus directly contrary to the position it asserted in its motion to strike Fairchild's PICs that Fairchild must provide a chart for each device against which it is asserting infringement.[6] AOS's Motion to Strike (Docket No. 51), at pp. 5-6.

AOS selectively quotes Fairchild in an attempt to mislead the Court, arguing that Fairchild's position that AOS must separately provide a chart for each accused Fairchild product is "directly contrary" to prior positions taken by Fairchild, and then providing the following quote from Fairchild's Opposition to AOS's Motion to Strike (Docket No. 64:

> "Patent Local Rule 3-1(c) does not require . . . a claim chart for each and every accused product . . . . Nor does it require reverse-engineering of every accused product." AOS's Opposition to Fairchild's Motion to Strike (Docket No. 93), at p. 7.

AOS conveniently omits the remainder of the paragraph:

> "On the contrary, a party is free to accuse one or more products based on reverse-engineering or its equivalent, and then make reasonable inferences based on that reverse-engineering, or other evidence, that other accused products infringe that were not reverse-engineered." Fairchild's Opposition to AOS's Motion to Strike (Docket No. 64), at p. 8.

Fairchild explained in detail in its PICs why each of the accused AOS products – which were specifically identified by part number – were substantially the same as the fourteen reverse-engineered parts for purposes of the infringement analysis. However, AOS has not explained the basis for its position that the additional accused and unidentified Fairchild products have a "corresponding design"

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[5] By contrast, Fairchild's PICs explained why the reverse-engineered parts referenced in its PICs reasonably support an accusation of infringement for each of the other accused AOS products. Fairchild's PICs (Schuman Decl., Ex. A), at p. 2.

[6] By comparison to AOS's inclusion in its PICs of a mere two claim charts, each applying the claims of one asserted patent against a single part, Fairchild in its PICs included 56 claim charts -- 14 different charts for each of its 4 asserted patents, each chart applying all the asserted claim elements for one patent against 14 of AOS's accused products. Furthermore, Fairchild attached as exhibits to its claim charts at least 6 figures for each of the 14 reverse-engineered parts. Fairchild's PICs (Schuman Decl., Ex. A), at Exs. 2-57 thereto.

to the product for which it provides a single reverse-engineering analysis, or even which features of the design are "corresponding" among the accused parts..

Additionally, AOS has failed to sufficiently identify the accused instrumentalities under Patent L.R. 3-1(b). Patent L.R. 3-1(b) requires that this identification be "as specific as possible." AOS asserts in its opposition that it has accused not only the three additional Fairchild products for each patent for which it has not provided any reverse-engineering, but every other Fairchild product that has a "corresponding design." AOS's Opposition to Fairchild's Motion to Strike (Docket No. 93), at pp. 6-7. "Each product, device, and apparatus must be identified by name or model number, if known." Patent L.R. 3-1(b). AOS must accordingly identify the additional specific devices by name or model number, as Fairchild did in its PICs, that AOS claims have a "corresponding design." Requiring Fairchild to guess what constitutes a "corresponding design" is not sufficient. *See InterTrust Technologies Corp.*, 2003 WL 23120174 at *2 ("Nor can Microsoft be expected to guess which versions of its products InterTrust believes to have the software modules that infringe its software patents.") Additionally, if AOS can somehow determine, as it claims, that the three additional products it specifically identified for each patent have a "corresponding design" without reverse-engineering, it must be able to do so for any other Fairchild products.

III. CONCLUSION

The purpose of the Patent Local Rules is to permit an orderly and fair claim construction process. AOS's Supplemental PICs fail to comply with the Patent Local Rules, thus depriving Fairchild of fair notice of AOS's patent infringement claims and hindering Fairchild's ability to progress toward the claim construction hearing and eventual resolution of this dispute. Specifically, AOS's Supplemental PICs fail to provide a sufficient disclosure of the factual basis for AOS's theories of infringement, hindering Fairchild's ability to select claim terms and prepare claim constructions, as it is unclear how AOS reads the asserted claims of its patents on Fairchild's accused devices. Most importantly, Fairchild's ability to prepare invalidity contentions is hindered because it is unclear how broadly or narrowly AOS reads the asserted claims of its patents. For the foregoing reasons, the Court should strike AOS's Supplemental Disclosure of Asserted Claims and Preliminary Infringement Contentions and compel AOS to serve PICs that fully comply with the Patent Local Rules. The Court

should also order that Fairchild be given forty-five (45 days) from AOS's service of amended PICs to serve supplemental Preliminary Invalidity Contentions if necessitated by the amendments.

DATED: November 27, 2007 TOWNSEND AND TOWNSEND AND CREW LLP

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